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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* GREGORY A. BOSER, KEVIN R. SEIFERT, and  
GREG GARLOUGH

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Appeal 2015-000306  
Application 13/209,265<sup>1</sup>  
Technology Center 3700

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Before ANTON W. FETTING, BIBHU R. MOHANTY, and  
BRUCE T. WIEDER, *Administrative Patent Judges*.

WIEDER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1–3, 5–7, and 9.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

CLAIMED SUBJECT MATTER

Appellants' claimed invention "relates to implantable medical devices and, more particularly, to implantable medical leads." (Spec. 1, ll. 15–16.)

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<sup>1</sup> According to Appellants the real party in interest is Medtronic, Inc. (Appeal Br. 2.)

<sup>2</sup> Claim 10 was canceled by amendment entered December 2, 2013.



Claim 1 is the sole independent claim on appeal. It recites (emphasis added):

1. A medical electrical lead comprising:  
a lead body that comprises one or more jacketed conductors;  
wherein *a jacketed conductor comprises a conductive element and a polymeric jacket* and wherein the jacket comprises one or more polymeric covers including a first cover of an extruded polymer directly contacting the conductive element;  
and  
wherein *the conductive element comprises a coil having a final outer diameter and which, unconstrained, exhibits elastic springback to a diameter greater than the final outer diameter* and wherein the polymeric jacket constrains the coil to the final outer diameter.

## REJECTIONS

Claims 1 and 2 are rejected under 35 U.S.C. §§ 102(a) and 102(e) as anticipated by Kuzma (US 2006/0265037 A1, pub. Nov. 23, 2006).

Claims 3 and 7 are rejected under 35 U.S.C. § 103(a) as unpatentable in view of Kuzma, Zikorus (US 2006/0085054 A1, pub. Apr. 20, 2006), and Kaplan (US 2006/0089691 A1, pub. Apr. 27, 2006).

Claims 5, 6, and 9 are rejected under 35 U.S.C. § 103(a) as unpatentable in view of Kuzma, Zikorus, Kaplan, and Myers (US 5,358,516, iss. Oct. 25, 1994).

## ANALYSIS

Kuzma discloses an implantable lead. (Kuzma, Abstract.) In particular, Kuzma discloses a first step in “making a multi-helix lead body” by “coating a lead wire with polyurethane to a desired thickness.” (*Id.* ¶ 23.)



Kuzma further discloses that “a wire **100** having a desired diameter **d1** is drawn through liquid polyurethane **102**, or equivalent coating material, in order to apply a coating **104** of polyurethane to the wire **100**, thereby forming coated wire **106**. When coated, the wire and coating have a combined diameter **d2**.” (*Id.*) The coating has a thickness **d3**. (*Id.*) Therefore, assuming a uniform coating, “the thickness **d3** is thus equal to  $(d2-d1)/2$ .” (*Id.*)

In the next step, the “multi-helix lead body **110** is formed by winding a plurality of coated wires **106** on a mandrel **112**.” (*Id.* ¶ 24.) The helically wound coated wires have a “wire spacing **P** (also referred to as the wire pitch).” (*Id.*)

In the final step, the polyurethane coating of the coated wires is fused by applying heat. (*Id.* ¶ 26.) As a result of the heating,

[t]he desired wire spacing or pitch **P** is maintained in the multi-helix wire-wound tubing **130** that existed in the unfused multi-helix body **110**. The outside diameter **D3** of the fused tubing **130** is slightly reduced from the outside diameter **D1** of the unfused body **110**. Similarly, the inside diameter **D4** of the fused tubing **130** is slightly increased from the inside diameter **D2** of the unfused body **110**. (*Id.* ¶ 28.)

The Examiner finds that

[s]ince Kuzma specifies that “diameter **D3** of the fused tubing **130** is slightly reduced from the outside diameter **D1** of the unfused body **110**” and that the thermal processing procedure or annealing produces a more stable and stiff design such that wire spacing and pitch of the coil formed when tightly wound and constrained on the mandrel is maintained as “that existed in the unfused multi-helix body **110**”, it is inherent that the coil of Kuzma exhibits elastic spring back to a diameter greater than **D3** without the thermal processing procedure and the purpose



of the jacket 104 after thermal processing is to constrain the coiled construction to the desired final outer diameter D3 via the formation of the more stable and completely sealed fused tube 130.

(Answer 6.)

Appellants argue that

there is no indication of any springback of the coil 100 in conjunction with the cited Figures and text. Instead, the inner diameter of the jacket increases while the outer diameter of the jacket decreases. No springback or diameter change whatsoever of the coil 100 is discussed in conjunction with heating/fusing the jacket.

(Appeal Br. 4–5.) Appellants further argue “that the diametric changes in Kuzma are entirely due to plastic deformation due to heating of the polymeric jacket. There is no indication that the coil wire 100 changes diameter at all.” (Reply Br. 4.)

We agree with Appellants. Neither the Examiner nor the Appellants point to any suggestion in Kuzma that the diameter D1 of the wire is altered by the heating process and it is specifically stated that the pitch P is maintained. (*See* Kuzma ¶ 28.) Thus, it appears that the reduction in size of the outside diameter corresponds to the reduction in size of D3. This would similarly account for the increase in size of inside diameter D4. (*See id.*; *see also* Reply Br. 4.)

Therefore, we are persuaded that the Examiner erred in finding that “it is inherent that the coil of Kuzma exhibits elastic spring back to a diameter greater than D3 without the thermal processing procedure” and, therefore, in rejecting claims 1 and 2. (*See* Answer 6.)

With regard to dependent claims 3, 5–7, and 9, rejected under § 103(a), the Examiner does not rely on the additional references to cure the



deficiency of Kuzma discussed above. Therefore, for the reason discussed above, we are persuaded that the Examiner erred in rejecting dependent claims 3, 5–7, and 9.

#### DECISION

The Examiner's rejection of claims 1 and 2 under 35 U.S.C. §§ 102(a) and 102(e) is reversed.

The Examiner's rejections of claims 3, 5–7, and 9 under 35 U.S.C. § 103(a) are reversed.

REVERSED